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SHORT REPORT

Bilateral True Isolated Superficial Femoral Artery Aneurysm: Report of a Case and Literature Review

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We report a case of an 85-year-old man with true isolated bilateral superficial femoral artery aneurysms. The aneurysm size was 6.2 cm on the right and 4.8 cm on the left. They were repaired with transfemoral endovascular placement of three excluder stent grafts on the right and two excluder stent grafts on the left. Both procedures were done under local anesthesia.

Keywords: Superficial femoral artery aneurysms; Isolated; Bilateral; Endovascular repair.

Case Report

An 85-year-old man presented with of two large masses in the upper thigh. They became apparent 3 months ago. An arteriography of the abdominal aorta and peripheral arteries confirmed the diagnosis of the bilateral superficial femoral artery aneurysms (SFAA). CT scans of the thighs were obtained in which the size of the aneurysms was estimated to be 6.2 cm in diameter on the right and 4.8 cm on the left side (Fig. 1). A contrast-enhanced CT of the thoracic and abdominal aorta showed no abnormalities.

The aneurysm on the right side was treated with transfemoral placement of three excluder stent grafts: 16×140×14, 16×140×12 and 16×140×7 mm^3 (W. L. Gore and Associates, Flagstaff, AZ, USA), under local anesthesia, in the operating theater. Repair of the left SFAA was done 1 month later by the deployment of two Excluder stent grafts: 16×140×14 and 16×100×14 mm^3 (W. L. Gore and Associates, Flagstaff, AZ, USA) following the same endovascular procedure. The devices were oversized by 15% of the measured luminal diameter to secure and maintain a sufficient seal. Besides 2–3 cm overlap was allowed, to ensure a safe stent graft deployment, and to avoid migration, twisting or endoleak. There was no evidence of distal embolization during the procedure. This was checked by a completion arteriography after stent graft deployment. The patient had an uneventful post-operative course and was discharged on the fifth postoperative day both times. Follow-up CT (Fig. 2) 6 months after the procedure demonstrated 0.7 cm aneurysm shrinkage in the right and 0.4 cm in the left aneurysm. Furthermore, the CT scan revealed intact stent grafts with no endoleak or migration. The patient remained well after a 15-month follow-up period. He is asymptomatic and the aneurysms are no longer palpable.

Discussion

Isolated atherosclerotic true SFAAs are extremely rare.[1,2] The largest series available is the one by Jarrett *et al.*,[2] which reports 13 cases of solitary SFAAs and includes a comprehensive review of the existing literature. A straightforward conclusion drawn from these reports is that SFAAs almost always present in elderly men (past the seventh decade of life) and there seems to be a strong correlation with other arterial

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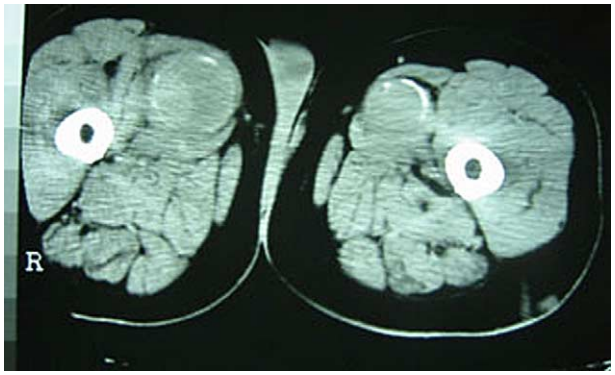

Fig. 1. Abdominal computed tomography scan of the thighs in which the size of the aneurysms was measured to be 6.2 cm in diameter on the right and 4.8 cm on the left side.

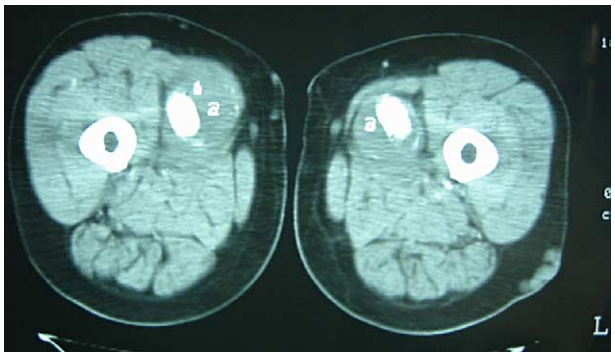

Fig. 2. Follow-up CT scan, 6 months after the procedure demonstrates intact stent grafts with no endoleak or migration in addition to 0.7 cm aneurysm shrinkage in the right and 0.4 cm in the left aneurysm.

aneurysms, mainly of the abdominal aorta and the popliteal artery.[1–3]

Since SFAAs often accompanies an AAA and other peripheral aneurysms, the pathogenesis of SFAAs appears to be related to a systemic connective tissue dysfunction other than atherosclerosis.[4,5] However, in our case, SFAAs were proven to be isolated and diagnostic work-up revealed no other etiological factor than atherosclerosis.

Controversy exists over the presentation of these aneurysms, as most papers report a high rupture rate up to 52%.[2,3,6] In contrast Jarrett *et al*., reported a zero rate of ruptured SFAAs.[2] Thrombosis and embolism seems to be more frequent, ranging from 16.6 to 46% in various reports.[2,4,6] This rather high complication rate of SFAAs at presentation, emphasizes the potential severity of this entity, and an elective operative repair should be undertaken. It is our opinion, that endovascular repair is the method of choice, as it combines minimal perioperative stress and results similar to that achieved with conventional reconstruction techniques.[7] However, careful postoperative long-term follow-up is necessary.[5]

References

1 Atallah C, AI Hassan HK, Neglen P. Superficial femoral artery aneurysm—an uncommon site of aneurysm formation. *Eur J Vasc Endovasc Surg* 1995;**10**(4):502–504.
2 Jarrett F, Makaroun MS, Rhee RY, Bertges DJ. Superficial femoral artery aneurysms: an unusual entity? *J Vasc Surg* 2002; **36**(3):571–574.
3 Vasquez G, Zamboni P, Buccoliero F, Ortolani M, Berta R, Liboni A. Isolated true atherosclerotic aneurysms of the superficial femoral artery. Case report and literature review. *J Cardiovasc Surg* 1993;**34**:511–512.
4 Rigdon EE, Monajjem N. Aneurysms of the superficial femoral artery: a report of two cases and review of the literature. *J Vasc Surg* 1992;**16**:790–793.
5 Honjo O, Yamada Y, Mima T, Kushida Y. Surgical treatment for an atherosclerotic aneurysm of the superficial femoral artery: report of a case. *Surg Today* 2004;**34**:188–189.
6 Dimakakos PB, Tsiligiris V, Kotsis T, Papadimitriou JD. Atherosclerotic aneurysms of the superficial femoral artery: report of two ruptured cases and review of the literature. *Vasc Med* 1998; **3**:275–279.
7 Van Sambeek MR, Gussenhoven EJ, Van der Lugt A, Honkoop J, Du Bois NA, Van Urk H. Endovascular stent-grafts for aneurysms of the femoral and popliteal arteries. *Ann Vasc Surg* 1999;**13**:247–253.

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